

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

April 19-20, 2018
Nashville, TN

Lithium Ion Batteries (Li-Ion)

Hosted by:



Defense Standardization & UFC Foundational Concepts

Industry Standards & Codes

1. Maximize the use of non-government standards and Consensus Building Codes - IBC, IMC, ASHRAE, NFPA, etc.

2. Government criteria will be unified and contain only unique exceptions and additions to industry criteria where:

Unified Facilities Criteria (UFC) (UFGS)

- Defines which standard or consensus code to use when more than one is available
- Defined by law, Executive Order, policies
- Military requirements differ from industry
- Industry criteria is inadequate or non-existent
- Define a level of performance or quality

Existing UFCs (Li-Ion)

- UFC 3-520-01 Interior Electric Systems
 - Do not use Lithium based batteries inside facilities for stationary apps
 - Industry standards don't adequately address this battery application
 - NFPA 111 Standard on Stored Electrical Energy
 - No guidance given unique to Li-Ion (HVAC, Suppression, Construction)
 - NFPA 855 Standard for Installation of Stationary Energy Systems
 - Not yet published, HVAC requirements are not yet defined
 - UL 9540 Energy Storage Systems and Equipment
 - Does not cover facility requirements
 - Catastrophic failure could destroy a critical mission and entire facility

Existing UFCs (Li-Ion)

- UFC 3-520-05 Stationary Battery Areas
 - Criteria for the storage & charging of Li-Ion
 - Special containment and separation requirements for thermal management and ventilation in case of failure
 - Prevents sympathetic failures, loss of mission and facility

Li-Ion Facilities

- For stand alone Li-Ion Facilities for an exterior grid-tied microgrid application, UFCs don't apply
 - “Stationary Battery Areas” are used to support the interior electrical system per UFC 3-520-01
 - Failure of a stand alone Li-Ion facility would not directly affect critical missions or other facilities

Questions?